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Indexed.

1886.

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ANNUAL
DESCRIPTIVE CATALOGUE
—OF—
FRUIT AND
ORNAMENTAL TREES.

SMALL FRUITS, VINES AND PLANTS PROPAGATED
GROWN AND FOR SALE BY

HART PIONEER NURSERIES,
FORT SCOTT, KANSAS.



NURSERIES ONE MILE NORTH OF THE PUBLIC SQUARE.



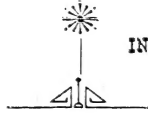
KANSAS CITY, MO.
LAWTON & HAVENS, PRINTERS, BINDERS AND STATIONERS.
1886.

ESTABLISHED:

Dade County, Missouri, 1857.
Fort Scott, Kansas, 1865.

INCORPORATED 1884.

INDIVIDUAL RESPONSIBILITIES, \$100,000.



H. B. HART, President.

F. M. LOCK, Secretary.

U. B. PEARSALL, Treasurer.

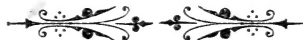


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INTRODUCTION.

It is with pleasure that we issue our annual Catalogue to the public, and sincerely trust it will prove of importance to all who may be interested in the cultivation of fruits and trees in the west. This catalogue has been carefully prepared from the best authorities, and such additions made as to cover the many peculiarities developed by the different varieties in adapting themselves to our western climate. We have been engaged exclusively in the nursery business in western Missouri and eastern Kansas for a quarter of a century, and in that period have seen demonstrated the fact, not only that all temperate fruits are highly successful here, but that also careful propagators and nurserymen are enabled to produce trees and plants generally of better growth than the nurserymen in most of the eastern and middle states. We know that few states produce as thrifty a growth on all standard fruit trees, and that eastern people becoming aware of this, are now shipping our Kansas nursery stock to eastern and northern markets. Connected, as we are, by so many competing lines east, west and south, the enormous and annually increasing crops of fruit of Kansas production find a ready market at the highest price, and the Kansas farmer who, ten years ago, planted an experimental orchard, is to-day reaping a generous income from what has proved to be one of the most profitable outlays he ever made.

FORT SCOTT

Is so situated, topographically, as to combine all the essentials of soil and climate necessary to the thrifty, sturdy growth of nursery stock; in fact, eminent nurserymen in the east, like Robert Douglass, of Waukegan, Ill., in remarking upon our wonderful success, has called Fort Scott the "Rochester of Kansas," and while we can grow as large a variety, we certainly can get a better growth than many of the eastern nurserymen. Our

RAILROAD FACILITIES

are such that we can reach all points in Kansas, Nebraska and Missouri without delay, thereby enabling stock to reach its destination in a perfectly first-class condition. Mr. H. B. Hart, the president of the Hart Pioneer Nurseries, has established an enviable reputation as a successful and reliable propagator, in the long period of years in which he has been engaged in growing stock in this country, as is shown by the testimonials to be found in another part of this work. He was awarded a silver medal by the Kansas State Horticultural Society for the best display of fruit trees and nursery stock, at their annual exhibition, held at Fort Scott in 1870. In order to sustain his reputation, we are taking the greatest pains in handling and selling stock. We have stricken the substitution clause out of our retail contract, and if we cannot furnish the exact varieties our customers desire, we will, in every case, deduct the amount from the bill. In order to avoid making mistakes in packing, we label every tree, and all precautions possible will be taken to satisfy each customer that he has received fair and honorable treatment at our hands.

That there has been great improvement in fruits in recent years by the introduction of finer and more profitable varieties, is beyond question. Among these new sorts are some possessing such characteristics of thriftiness, productiveness, hardiness, quality, size and beauty, as to render them pre-eminently valuable.

Many persons say, "a tree is a tree," who would never speak of other

property in this way—a colt for instance. Yet there is as much difference in proportion between trees as colts. What the colt is, however, can generally be seen, but the buyer of trees must wait for years before he sees what a tree is. Again, the colt, if not wanted, may be sold in a month or a year, but if the tree turns out to be a disappointment, it is beyond remedy. In no other kind of merchandise is the buyer more largely dependent upon the ability and integrity of the seller.

Gradually the people are coming to understand that a poorly-grown tree, or a tree not true to name and of an inferior variety, is dear as a gift; while year after year there is an increasing number of thoughtful, intelligent planters who know the value of thoroughly reliable trees and plants, whether of the old kinds or of the new and rare varieties, and are willing to pay a fair price for them when they are satisfied that the nursery from which they propose buying is worthy of their entire confidence.

We would say to those unacquainted with our establishment, that this is the TWENTY-FIRST YEAR of our Nurseries, and that we have over four hundred acres devoted to the business. While we bestow the greater share of attention upon leading well known varieties, we have for years devoted much time and care to promising and desirable novelties, and believe that our assortment is equal to any in the west. Particular attention is asked to the New and Rare Varieties we offer. We have large specimen orchards in bearing, and planted, the past year, over five thousand trees for furnishing cions and buds, and, therefore, we know that our stock is true to name.

The character for accuracy, promptness and fair dealing, which this establishment has earned and enjoyed for more than TWENTY YEARS, would render it unnecessary for us to publish a list of references or testimonials of assurance that we give prompt and careful attention to all orders with which we are entrusted, were it not, that in the course of our largely increased trade, there are many who have not heretofore dealt with us, but whom we wish for permanent customers, and who, we are confident, will become such after giving our Nurseries a fair trial. Our salesmen are always fully equipped with a commission, and all that is requisite to authorize them to sell our stock. We are aware that many tree dealers and agents claim to represent our Nurseries, who have no authority to do so. The only manner in which this false movement can be met, is for our patrons to require the salesman to show his commission, of recent date, signed by us.

TESTIMONIALS.

We append below a few of the many testimonials which Mr. Hart has received from citizens in this and neighboring counties:

We, the undersigned, having known Mr. H. B. Hart for many years, cheerfully state that we believe him to be thoroughly skilled in the growing of fruit trees and shrubbery. We also have known him to be thoroughly reliable, and believe that all stock grown by him will, in the future as in the past, prove true to name and first-class in every respect. We commend his Nurseries to the favorable consideration of all who contemplate planting, as one that can be entirely relied upon.

J. D. Manlove, Pres. Bourbon Co. Horticultural Society, Fort Scott, Kas.

T. W. Tallman, ex-County Sheriff, Fort Scott.

John A. Bryant, ex-Mayor of Fort Scott.

J. P. McNaughton, Pacific Express Agent, Fort Scott.

James H. Brown, County Treasurer, Fort Scott.

E. J. Chapin, County Clerk, Fort Scott.

L. G. Porter, Register of Deeds, Fort Scott.

J. R. Smith, Deputy Register of Deeds, Fort Scott.

J. M. Limbocker, County Attorney, Fort Scott.

E. J. Peck, Farmer, Fort Scott.
 J. H. Lawhead, State Superintendent Public Instruction, Topeka.
 O. A. Cheney, Probate Judge, Fort Scott.
 H. H. Lamb, Ice Dealer, Fort Scott.
 S. B. Gardner, Hardware Merchant, Fort Scott.
 D. M. Logan, Farmer, Fort Scott.
 Henry Todd, Farmer, Fort Scott.
 L. W. Mahon, Farmer, Arcadia, Kansas.
 Stanley Woodruff, manager Grange Co-operative Store, Fort Scott.
 Charles Kaufman, Grocer, Fort Scott.
 C. T. Rucker, ex-County Sheriff, Fort Scott.
 E. L. Penniman, Hardware Merchant, Fort Scott.
 B. P. McDonald, Director Citizens' National Bank, Fort Scott.
 John Perry, President Citizens' National Bank, Fort Scott.
 C. H. Osburn, Cashier Citizens' National Bank, Fort Scott.
 C. F. Drake, President Bank of Fort Scott, Fort Scott.
 Chas. Nelson, Cashier Bank of Fort Scott, Fort Scott.
 C. O. French, Judge District Court, Fort Scott.
 E. M. Hulett, Attorney-at-Law, Fort Scott.
 J. D. McCleverty, Attorney-at-Law, Fort Scott.
 D. S. McKay, Wholesale Boots and Shoes, Fort Scott.
 J. M. Hiatt, Farmer, Fort Scott.
 Dr. A. E. Currier, Farmer, Hammond, Kansas.
 M. W. Campbell, Farmer, Hammond, Kansas.
 R. A. Williams, Farmer, Glendale, Kansas.
 T. W. Chapman, ex-County Commissioner, Fort Scott, Kansas.
 W. W. Dillard, Wholesale Tobacconist, Fort Scott.
 B. J. Waters, ex-Member Legislature, Fort Scott.
 James Quick, Farmer, Redfield, Kansas.
 Geo. T. Winter, Farmer, Fort Scott.
 B. F. Hepler, Physician, Fort Scott.
 Sam'l R. Osburn, Farmer, Fort Scott.
 John Seever, Farmer, Fort Scott.
 A. Fitzpatrick, Farmer, Fort Scott.
 John Beck, Farmer, Fort Scott.
 H. P. Gordon, Farmer, Hammond, Kansas.
 L. C. Hanna, Livery, Fort Scott.
 C. W. Goodlander, President Goodlander Mill Co., Fort Scott.
 D. F. Hall, Farmer, Mill Creek, Kansas.
 Isaac Stadden, Wholesale Grocer, Fort Scott.
 F. M. Brickley, Farmer and contractor, Fort Scott.
 Benj. Files, Liveryman, Fort Scott.
 J. Rodecker, Wholesale and retail Clothier, Ft. Scott, and many others.

FROM DADE COUNTY, MISSOURI.

We, the undersigned, old patrons of Mr. H. B. Hart (who formerly owned a nursery in Dade County, Missouri, before the war, and who now and since 1865 has been in the nursery business in Fort Scott, Kansas), cheerfully state that our dealings with him have been entirely satisfactory. That what stock we have purchased of him has proven thrifty and true to name. We believe him worthy of the support, and cordially recommend him to the patronage of all parties who intend planting.

Alfred Kennedy, ex-County Clerk,.....Greenfield, Dade County, Mo.
 John H. Howard, Merchant,Greenfield, Dade County, Mo.
 Arch M. Long, County Surveyor,Greenfield, Dade County, Mo.
 E. T. Wasson, Farmer and Fruit Grower,Greenfield, Dade County, Mo.
 W. H. McBride, Merchant,.....Greenfield, Dade County, Mo.
 F. A. McClure, Farmer and Fruit Grower,.....Greenfield, Dade County, Mo.
 John Preston,Kings' Point, Dade County, Mo.

John M. Tarrant, Pres. Dade County Bank, ... Dadeville, Dade County, Mo.
 W. L. Scroggs, Greenfield, Mo.
 Jacob Cox, Farmer, Greenfield, Mo.
 James Hampton, Farmer, Greenfield, Mo.
 Joseph Jones, Farmer, Sylvania, Dade County, Mo.
 John Hampton, Farmer, Greenfield, Dade County, Mo.
 Joseph Lawrence, Stock Raiser, Lockwood, Dade County, Mo.
 James McClelland, ex-County Judge, Cedar, Dade County, Mo.
 Charles Van Pelt, Lamar, Barton County, Mo.
 Refer, by permission, to R. S. Jacobs, Banker, Greenfield, Mo.

TO CORRESPONDENTS.

Observance of the following requests will greatly facilitate our efforts to execute the wishes of our customers:

FIRST. Order early in the season, especially if the trees are to be sent any great distance, that we may ship at the earliest possible moment.

SECOND. Write your order plainly on a separate sheet of paper, and not in body of letter. State, definitely, varieties, age, size and number, whether standard or dwarf, and route by which you wish your goods, shipped, whether by common freight or express.

THIRD. All orders less than twenty-five dollars must be accompanied by cash, and over, by cash or satisfactory reference.

FOURTH. We are, in no case, responsible for loss or damage to goods in transit. Our responsibility ceases on delivery to shipping agents.

FIFTH. If selection of varieties is left to us, we will select according to our best judgment and long experience. Where varieties are specified we will adhere to specifications in every case.

SIXTH. In case of any mistake on our part, immediate notice should be given so that it may be rectified or explained. All claims for loss, damage or rebate must be made within ten days from receipt of goods, or they will not be considered.

For proper methods of handling and planting trees and shrubbery, see our "Hints on Planting," sent free on application.

DISTANCES FOR PLANTING.

Standard Apples,	30	feet apart each way
Standard Pears and Strong-Growing Cherries.....	20	" " " "
Duke and Morello Cherries.....	18	" " " "
Standard Plums, Apricots, Peaches, Nectarines, 16 to 18	"	" " " "
Dwarf Pears.....	10 to 12	" " " "
Dwarf Apples.....	10 to 12	" " " "
Grapes.....	rows 10 to 16 feet apart, 7 to 16	feet in rows.
Currants and Gooseberries,	3 to 7	feet apart.
Raspberries and Blackberries	3 to 4	by 5 to 7 apart.
Strawberries, for field culture,	1 to 1½	by 3 to 3½.
Strawberries, for garden culture,.....	1 to 2	feet apart.

Number of Trees on an Acre.

30 feet apart each way,.....	50	10 feet apart each way,.....	435
25 " " " "	70	8 " " " "	680
20 " " " "	110	6 " " " "	1210
18 " " " "	135	5 " " " "	1745
15 " " " "	205	4 " " " "	2725
12 " " " "	300	3 " " " "	4840

RULE.—Multiply the distance in feet between the rows, by the distance the plants are apart in the rows, and the product will be the number of

square feet for each plant or hill; which divided into the number of feet in an acre (43,560), will give the number of plants or trees to the acre.

Number of forest trees required on a timber claim entry. Distance apart, 4 feet; number per acre, 2,700; number of acres, 10; whole number required to plant, 27,000; number required in thrifty condition when final proof is made, 675 per acre.

SUMMER APPLES.

✓ **EARLY HARVEST.**—Rather large, yellow, round, tender, with mild acid flavor; tree moderate grower and splendid producer. It has no superior among early apples. June and July.

✓ **RED JUNE (Carolina Red).**—Medium to small, deep red, very productive, good quality, free grower; adapted to south and west. June and July.

✓ **ASTRACHAN, RED.**—Rather large, approaching conical; covered with deep crimson, overspread with bloom; flesh juicy, rich, acid. From its earliness, handsome appearance and the vigor of the tree, and form its excellent culinary qualities, it should be in every orchard. July and August.

✓ **COOPER'S EARLY WHITE.**—Medium size, nearly round, pale yellow, flesh white, crisp, flavor sub-acid and rich. Tree good grower and early and regular bearer. July and August.

✓ **SWEET JUNE.**—Medium, round, yellow, sweet, good for table or kitchen; tree upright, hardy and productive. June and July.

✓ **EARLY PENNOCK.**—Very large, round, light yellow, shaded with red, flesh white, crisp, sub-acid; especially adapted to the west. July and August.

✓ **AMERICAN SUMMER PEARMAN.**—Medium size, oblong, nearly covered with streaks and dots of red; tender, juicy and rich; sub-acid flavor; tree a slow grower, but bears early and abundantly, continues in use for several weeks. One of the very best apples. Ripens last of July to last of August.

✓ **SUMMER QUEEN.**—Medium to large, roundish, yellow, blotched and streaked with red, flesh yellow and tender, with an acid, aromatic flavor. July, August.

✓ **BENONI.**—Medium size, roundish, oblong, red flesh, tender, juicy, rich, for table; tree erect and moderate grower; very productive. Middle of July to August.

✓ **LOWELL.**—Origin unknown. A fall variety in the east and north, but ranks with summer varieties in this climate, ripening in August; tree of low, spreading growth, very hardy and productive. One of the best.

✓ **DUCHESS OF OLDENBURG.**—Of Russian origin. Large, roundish, striped with red and yellow; flesh whitish, juicy, sprightly sub-acid; tree a vigorous grower and very hardy, an early and abundant bearer. While it is indispensable in the north, it is almost equally so in the south. We confidentially recommend it as very valuable for the orchard or garden. September.

✓ **YELLOW TRANSPARENT.**—New. "The earliest ripening variety known." Tree a good grower and an unusually early bearer. We consider it a most valuable early apple. Fruit good size and good quality, skin clear white at first, becoming a beautiful pale yellow when fully matured. Ripens from ten days to two weeks before early harvest. Not fully tested yet in Kansas.

AUTUMN APPLES.

✓ **MAIDEN BLUSH.**—Rather large, oblate, smooth, regular, with a fine, evenly-shaped red cheek or blush, on clear, pale yellow ground; flesh white, tender, sprightly, with fine sub-acid flavor; a handsome, rapid-growing tree, with a fine spreading head; bears large crops. August, September.

✓ **RAMBO.**—Medium size, greenish-yellow, splashed and striped freely with dull red; sub-acid; good for dessert or cooking. October to December.

✓ **FAMEUSE (OR SNOW.)**—Medium to large, deep crimson, flesh snowy white, tender, melting, delicious; tree vigorous, with dark wood; fine for dessert and valuable for market. November to January.

✓ **JONATHAN.**—Medium, round to oblong, sometimes conical, red, mild, sub-acid, good family apple, moderate grower, bears early and abundantly. October to January.

✓ **FALL WINE.**—Fruit above medium, stem rather long, slender, in a broad, deep cavity, surrounded by clear waxen yellow, calyx partially closed in broad, deep corrugated basin; skin striped and shaded with red, on a light ground with numerous russet dots; flesh yellowish, juicy, tender, with an aromatic, very mild sub-acid flavor, almost sweet. One of the best. September to October.

✓ **GRIMES' GOLDEN PIPPIN.**—A native of Brook Co., W. Va.; an apple of finest quality, succeeding well in the southwest; medium to large, flesh yellow, sub-acid, aromatic, spicy, rich refreshing; tree hardy, vigorous and productive. November to January.

✓ **BAILY SWEET.**—Large deep red, striped, with yellow background, tender, rich, sweet and very fine; vigorous, upright grower. October to December.

✓ **FALL PIPPIN (Pound Pippin).**—A noble fruit, and ranks with the best. Tree a strong grower, vigorous, upright and spreading; young shoots reddish-brown; fruit very large, roundish, a little flattened; skin smooth, yellowish-green, becoming a fine yellow with a faint blush on one side, and sprinkled with dots. Flesh white, very tender and mellow, with a rich, aromatic flavor. Ripens in September; keeps until November.

WINTER APPLES.

✓ **BEN DAVIS (New York Pippin, Kentucky Red Streak, etc.)**—A large, handsome, striped apple, of good quality; tree very hardy, vigorous and productive. A very late keeper and one of the best shipping apples. December to May.

✓ **MISSOURI PIPPIN.**—Large, bright red, striped, mildly acid, valuable for market and much esteemed for cooking, strong grower and regular abundant early bearer. December to April.

✓ **WINE SAP.**—Large, roundish, deep red, medium quality, good keeper; tree a moderate grower and a good bearer; succeeds well in the west; valuable and popular for table and market. December to May.

✓ **RAWLES' JANET (Geniton, Never-fail, etc.)**—Medium size, yellow, striped with red, crisp, juicy, rich, free grower and prolific bearer. One of our favorite winter apples. December to April.

✓ **WILLOW TWIG.**—Fruit medium size, round, oblate, slightly conical, light yellow, shaded with dull red and sprinkled with russet dots; flesh yellowish-green, not very tender, but of pleasant sub-acid flavor; a valuable keeper and good bearer. December to April.

✓ **LITTLE ROMANITE (Gilpin.)**—Small to medium, a well-known and justly popular variety, dark red, productive, good keeper, very hardy. December to May.

✓ **WHITE WINTER PEARMAN.**—Large, conical, fine, yellow, of best quality and productive on good soil. January to April.

✓ **RED WINTER PEARMAN (Lady Finger).**—Fruit medium yellowish-white, with minute gray russet dots; dull blush and spots of lively red in the sun; flesh yellow, tender, juicy, nearly sweet. Early winter. December and January.

✓ **SMITH CIDER.**—Large, handsome, a green-white color, striped with red, flesh tender, juicy, with rich, sub-acid flavor, prodigious early bearer and splendid market variety. October to February.

✓ **ROME BEAUTY.**—Large, yellow, shaded with bright red; flesh yellowish, tender, juicy, sub-acid. Moderate grower. November to February.

✓ **HUNTSMAN'S FAVORITE.**—Originated in Johnson Co., Mo.; very best quality, deep yellow, medium to large. Will keep until March.

✓ **DOMINIE.**—Fruit medium, flat; skin lively greenish-yellow in the shade, with stripes and splashes of bright red in the sun, and large russet specks; flesh white, exceedingly tender and juicy, with a sprightly flavor; tree a rapid grower and early bearer. October to January.

✓ **YORK IMPERIAL.**—Origin thought to be York Co., Pa. Tree moderately vigorous, very productive; fruit medium, whitish, shaded with crimson in the sun, sprinkled with light and grey dots; flesh yellowish, firm, crisp, juicy, mildly sub-acid; core compact and small; calyx closed in basin large and deep. One of the very best, December to May.

✓ **TALMAN SWEETING.**—Medium, pale yellow, tinged with red; one of the best varieties. Will keep till December.

✓ **YELLOW BELLFLOWER.**—Large, oblong, pale yellow, tender, fine-grained, crisp, juicy and excellent; tree a free grower. October to February.

✓ **LAWVER.**—Originated in Platte Co., Mo.; a new and valuable variety for the west; large, roundish, dark red, a handsome, showy market variety, commanding highest price; fine acid flavor; tree very hardy, good grower and regular but shy bearer. January to April.

✓ **McAFEE NONSUCH.**—Large size, roundish, flat, greyish-red, sub-acid, juicy, good; a heavy, strong-growing, regularly productive tree; especially recommended. November to January.

✓ **MILAM.**—Fruit medium, roundish, greenish shaded and striped with red; flesh rather firm, sub-acid, not rich; quality good. November to February.

✓ **MANN.**—Medium to large, round, oblate, regular, deep yellow, with a shade of brownish-red, sprinkled with grey dots; one of the very best new varieties, and found to be very hardy and productive in the southwest, bears regular, abundant crops, and is a very late winter keeper. November to April.

✓ **LANSINGBURG.**—Fruit medium, roundish, oblate, yellow, largely overspread with greyish-red; flesh firm, mild, sub-acid; good, valuable for its long keeping qualities; tree upright, spreading, vigorous and productive, altogether, one of the best apples in cultivation, and should be planted in every orchard as a valuable winter sort.

✓ **KANSAS GREENING.**—Origin, Bourbon County, Kansas. Propagated solely by Hart Pioneer Nurseries, Fort Scott, Kansas. Healthy, vigorous grower, spreading habit, good bearer; fruit medium to large, color green, slightly flushed with red when exposed to the sun; flesh yellowish, sprightly sub-acid, resembling Rhode Island Greening, but richer in quality. Has been kept in barrels until May 1st, without a defective apple.

PEACHES.

✓ **AMSDEN.**—Two weeks before Hale's Early, ripening, sometimes, by

the last of June, good size and easily marketed, bringing highest price; red, shaded and striped with dark red; flesh white, delicious flavor, nearly a free-stone.

✓ **ALEXANDER.**—A week later than Amsden, large for an early peach, fine flavor, rich and juicy, bears transportation well; tree vigorous and long-lived. Free-stone.

✓ **GOVERNOR GARLAND.**—This is a large, beautiful peach, of a rich mottled red color. It is very firm, and bears transportation well. For earliness, size, color, flavor and shipping qualities combined, it has no superior. The tree is hardy and thrifty, bearing large annual crops. In appearance it resembles the Amsden, but is pronounced better and earlier. Origin, Benton County, Arkansas. Cling-stone.

✓ **EARLY YORK** (Early Purple, etc.)—Fruit medium size, roundish, inclining a little to ovate, skin very thin, pale red, thickly dotted on pale ground in the shade, but deep red in the sun; flesh greenish-white, tender and melting, full of rich, sprightly juice. First of August. Free-stone.

✓ **HALE'S EARLY.**—Originated in Summit Co., Ohio. Very early; first called Early German; tree hardy, productive, fruit ripens very early, and is good; tendency to rot quickly; medium size, round, skin greenish, mottled with red. Free-stone. Last of July.

✓ **TROTH'S EARLY.**—Fruit medium, roundish; skin whitish, bright red in the sun; flesh white, red at the stone, juicy, sweet. Ripens in latter part of August.

✓ **CRAWFORD'S EARLY.**—Large, yellow, handsome, splendid market peach, bearing regularly; flesh yellow, juicy, very sweet, free, vigorous and hardy. Free-stone. Last of August.

✓ **CHINESE CLING.**—Large, nearly white, shaded with red; flesh white, red at the stone; one of the best cling-stones, and hardy. Ripens last of July.

✓ **BRICE'S EARLY.**—A fine, beautiful peach, of medium size, yellow, richly striped with red; flesh yellow, rich and good. Nearly Free-stone. July.

✓ **FOSTER.**—One of the largest and best, resembles Crawford's Early, from which it is said to have been originated; much esteemed for family use, and a splendid market variety on account of size and regular bearing. Free-stone. August.

✓ **HONEST JOHN.**—Large, whitish, marbled, red, juicy and rich. Free-stone. August.

✓ **SUSQUEHANNA.**—A handsome, valuable peach, rapidly becoming a favorite, although new in the west; fruit of the largest size, skin yellow, with red cheek; flesh yellow, juicy, sweet, with a rich vinous flavor. Free-stone. Moderate bearer. First of August.

✓ **WATERLOO.**—Originated in Waterloo, N. Y. Medium to large, often measuring nine inches in circumference, round, pale whitish-green in the shade, deepening into dark red in the sun; flesh greenish-white, sweet and juicy; half free-stone, like Hale and Amsden. First of July.

✓ **OLD MIXON FREE.**—Large, greenish-white, with red cheek, rich and juicy, hardy and productive. September.

✓ **CRAWFORD LATE.**—Very large, yellow with red cheek, one of the most valuable later varieties. Free-stone. Last of September.

✓ **HEATH CLING.**—Oblong, large, white, flesh white, juicy and rich. Last of September.

✓ **OLD MIXON CLING.**—Large, nearly white, dotted with red on a red cheek; flesh yellow, melting and rich, with delicious flavor; one of the best clings. Last of August.

✓ **STUMP THE WORLD.**—Very large, nearly white, with scarlet cheek; flesh white, sweet and juicy, very hardy, regular and productive. Free-stone. Last of August.

✓ **WARD'S LATE.**—Medium size, white and red, juicy and sweet, fine for late preserving. October 1st.

✓ **HILL'S CHILI.**—Tree very hardy, slow grower, great bearer, a very excellent peach. October.

✓ **SMOCK.**—Large, orange yellow. red on the exposed side. juicy, rich, a fine, late variety. October.

✓ **SALWAY.**—Fruit large, roundish, deep yellow, with a rich, marbled, brownish cheek; flesh yellow, firm, juicy, rich and sugary. A new English variety.

✓ **ARKANSAS TRAVELER.**—As far as tested, the finest of all very early peaches; larger than either Amsden, Alexander or Crawford; for size, beauty of coloring and rich, excellent flavor, this variety ranks ahead of many old and esteemed varieties; without doubt the best early peach grown, and should be in every orchard.

✓ **BAKER EARLY.**—About same season as Amsden. Color light red, checked, good size; tree a good bearer; A great favorite in southern Kansas. Free-stone.

NECTARINES.

The Nectarine requires the same culture and management as the peach, which fruit it resembles, except that it has a smooth skin and small pit like the plum. A valuable fruit, but not as successful as we could wish, and often attacked by the curculio. We consider the Early Violet the only variety that can be successfully propagated in the west. This variety ripens the last of August, is medium size, yellow, with red cheek, rich and delicious. Free-stone.

PEARS.

The increasing demand for this delicious fruit, and the great profit arising from its culture, together with the success it has been found to attain in this locality and in the west, requires that we give it more than a passing notice.

If our advice were asked we should at once say plant dwarf varieties more largely, by far, than standard; for while several of the leading varieties can only be grown as standards, as a rule the dwarf pear stands our changeable climate much the best. Then, too, they bear much younger, are less liable to blight, many more can be planted on the same amount of ground, thus insuring a large crop, and generally the quality of the fruit is much improved when grown upon quince stock.

In ripening fruit, early varieties should invariably be ripened in the house, or in some dry, dark place, and late kinds should be picked before frost. Many farms in this locality and in Missouri have large and valuable pear orchards that are producing annually a large revenue, while they are being found to succeed remarkably well in western Kansas. In order that customers may choose well, we offer below only those varieties that from years of observation we have found to be the best calculated to succeed in the west.

SUMMER VARIETIES.

✓ **BARTLETT.**—Large, yellowish, with blush; flesh white, melting juicy, very sweet, with very vinous flavor. This variety is very highly esteemed, and succeeds well. July and August.

✓ **CLAPP'S FAVORITE**—Early, large, resembling the Bartlett, native, smooth, yellow, fine-grained, buttery, fair quality. July.

✓ **OSBUND'S SUMMER.**—American origin, tree moderately vigorous, hardy, seldom subject to mildew; flesh white, juicy, melting and rich, musky perfume, young wood, yellowish; fruit small, roundish, pyriform, skin yellow, dotted green and russet. First of August.

AUTUMN VARIETIES.

✓ **BELLE LUCRATIVE** (*Fondante d' Automne*).—Medium, yellowish-green, rich and delicious; early and good bearer; very fine. September.

✓ **DUCHESS d'ANGOULENE.**—Said to be a seedling from France; very large fruit, oblong, ovate, with uneven, somewhat knotty surface; skin dull greenish-yellow, streaked and spotted with russet, a most delicious, desirable fruit, and ranks the highest among all the fall pears. October.

✓ **FLEMISH BEAUTY.**—Supposed to be of Belgian origin; large, pale yellow, marked with russet, with red cheek when fully ripe, excellent quality, altogether, a superb pear; bears early and abundantly; fine quality. September.

✓ **LOUISE BONNE d'JERSEY.**—Medium size, pale yellow, with brown and mottled cheek; flesh nearly white, buttery, melting and rich; highly recommended for regular bearing and productiveness. Sep. to October.

✓ **SECKEL.**—Small, generally growing in clusters, the best flavor of all the pears, and pronounced among the hardiest. From the middle of August to September.

✓ **KEIFFER'S HYBRID.**—A new variety, of Pennsylvania origin, supposed to be a cross between the Bartlett and the Chinese sand pear; tree a vigorous grower, an early and abundant bearer, fruit medium to large, skin yellow, with a bright vermilion cheek; flesh brittle, very juicy and good; valuable for table or market; succeeds as standard or dwarf. September.

✓ **LE CONTE.**—Fruit large, yellow, mottled red on sunny side, of American origin; supposed to be a hybrid from the Chinese sand pear; good quality, tree hardy, regular bearer, and said to be free from blight. August

WINTER.

✓ **LAWRENCE.**—American origin; tree hardy, moderate grower, an early and abundant bearer, young shoots a dull yellow-brown, splendid orchard variety; fruit medium, regular, pyriform, color lemon-yellow, dotted with russet and brown; flesh white, rich, melting and juicy, with an aromatic flavor. December.

✓ **VICAR OF WINKFIELD.**—French origin. It is remarkably large, fair and handsome; not of best quality for table use, but excellent for all cooking purposes; fruit large, often six inches long and a little one-sided; skin smooth, yellow. November.

✓ **DOYENNE.**—Large, yellow, with crimson and fawn cheek and russet dots; melting, rich, perfumed and luscious; tree vigorous and productive. October to November.

CHERRIES.

The Cherry is generally successful on all soils in this climate, but always attains its highest perfection on light, dry or gravelly ground; especially is this true of all sweet varieties, and probably the reason they have the reputation of not being hardy, is the result of careless selection of location for planting. Dukes and Morellos are hardier, and will bear some moisture, but will flourish best in dryer soil. The Cherry stock which we offer is grown upon the *cerasus mahaleb* stock, a variety imported from Europe, more hardy than our own, and free from sprouts. Stock grown in this manner is somewhat dwarf in habit, and has given rise to the name "dwarf cherry."

DUKE AND MORELLO.

✓ **EARLY RICHMOND** (or Kentish).—Medium size, red, juicy, of rich, acid flavor; productive, fine for cooking; commences ripening last of May, and hangs long on the trees.

✓ **ENGLISH MORELLO**.—Medium to large, dark brown-red, nearly black when well ripened, nice flavor, good bearer; flesh juicy, sub-acid, rich. July.

✓ **MAY DUKE**.—Medium size and profitable for early market. dark red, rich acid flavor, nice for cooking. June.

✓ **MONTMORENCY**.—Very large, not very good quality, but valued as a market cherry. Middle of July.

PLUMS.

The Plum will be found highly successful in nearly all localities throughout the southwest. It yields the finest crops when planted in a rich, heavy loam, or on land containing considerable clay. It was formerly supposed that the curculio would not trouble this fruit when planted on clay land. The tree will make a nice growth and yield well in sandy soils, but generally falls a prey to the curculio. There are some varieties that succeed well in such situations.

The curculio, a small, brown insect, commences its depredations on this fruit as soon as it has attained the size of a pea, and continues its course of destruction until the crop is matured. It makes a small crescent-shaped incision in the fruit, and lays its egg in the opening; the egg hatches into a worm which feeds upon the fruit, causing it to fall prematurely. The only preventative that is known to succeed with any degree of certainty, is to place a white sheet under the tree early in the morning, when cool, and by jarring the tree suddenly, the insect falls upon the sheet, and, being stiff, can easily be caught. By repeating this a few mornings in succession, at different times, you may be able to save a good crop of fruit.

• **WILD GOOSE**.—One of the few plums said to be curculio proof; the most popular market variety, bearing immense crops annually; tree a vigorous, hardy grower, fruit large, deep red, nearly purple, with blue bloom; skin thick, somewhat tough; flesh sweet, juicy, adhering to the stone. Last of June and first of July.

✓ **GERMAN PRUNE**.—Fair quality for the table, but most esteemed for drying and preserving; an abundant bearer, fruit hanging long upon the tree; fruit long, oval, sometimes two inches long, and naturally swollen on one side, drawn out toward the stalk; skin purple, with a thick blue bloom; flesh firm, green and sweet; separates from the stone. Last of August.

✓ **WOLF FREE-STONE**.—This variety sustains its wonderful record for productiveness, by loading the trees this year with fruit, making 28 years

without a failure! It originated over thirty years ago from pits gathered in the timber and planted on the farm of D. B. Wolf, Esq., in Wapello Co., Iowa. Mr. Wolf says the trees were bearing when he purchased the farm 28 years ago, and they have never entirely failed in all that time. Some of the original trees are still living.

Prof. J. L. Budd, of the Horticulture department of the Iowa State College and Farm, after seeing specimens of the tree and fruit, says: "The fruit of this variety attracted much attention at the State Fair. It is nearly as large as Lombard, and for eating or cooking, about equal in quality. The firm fruit and peculiar pubescent branches and leaves, show some admixture of the European plums, yet, practically, the tree belongs to our native species, and seems perfectly hardy."

The tree is a magnificent grower, is perfectly hardy, and bears very young. From scions obtained from Mr. Wolf several years ago, we have had plums for five years without a failure. Our trees are very fine.

The Wonderful New Iron-Clad Plum, MARIANA.

"For leagues no other tree did mark
The level waste, the rounding gray"---*Tennyson's Mariana.*

In offering the "Mariana" to the public, we have pleasure in giving it as our unqualified opinion, that **it is a plum the merit of which is unequaled.** By no means is it an untried novelty, but in the 13 years it has been crucially tested by the introducer, Mr. Chas. N. Eley; it has gained universal admiration, more than fulfilling the most sanguine expectations entertained for it by all who were anxiously and critically watching his tests, as well as themselves subjecting it to a thorough trial. It stood the test with Judge Samuel Miller, of Missouri, with Mr. J. R. Hallett, of Michigan, in Colorado, and in Canada, of 40° below Zero, while in **tender condition.** As to drouth, Mr. Hallett writes: "It is the **only tree** in our nursery that came through the drouth [1884] without shedding its leaves." The same report from Kansas and northern Texas, and the most favorable reports from other states.

PLUMS, AND HOW TO GROW THEM.

Persistent experiment and trial, covering a space of many years, has conclusively proven that the European varieties of Plums, excepting the Damson, which is but little affected by the curculio, are almost worthless at the west and south.

This failure of the European varieties to bear and mature fruit, has compelled attention to our **Native Plums**, and, we are glad to say, with the happiest and most wonderful results, as is clearly shown by such yields as 150 bushels of fruit, selling at \$2.00 per bushel, from a third of an acre of ground. This proves that we can grow plums here which are useful and *will sell for money*; and this is only one of successive crops for years. With the hardy and extremely early Mariana, these returns will be greatly exceeded, the earliest fruits in the markets always carrying off the cream of the fancy prices.

After long and patient experiment with the numerous varieties of our Native Plums, and carefully noting the comparative results of the different methods of cultivating and growing the plum, we have become thoroughly convinced that this valuable fruit may be had in the greatest abundance by simply observing the *natural* and common sense plan of **close planting**, and planting **several varieties** together. The plan we recommend, and which has never failed to produce regular and abundant crops every year, is simply to plant the Native varieties on good soil, about 4 by 6 feet apart,

the more varieties the better, and cultivate well for three years, after which let them take care of themselves. If convenient, it is better to plant where the fowls or pigs have free run under them. The reasons for close planting and for planting many varieties together, are that nature thus grew them, and that rarely any variety of Native Plum will set a full crop of fruit unless there be others near it. Many sorts, such as the Wild Goose, Weaver, Miner, etc., which prove almost or entirely barren when isolated, become enormously productive when surrounded with other varieties. Indeed plum trees appear to be possessed of something of a sociable nature, not only preferring situations near dwellings, but seeming disinclined to fruitfulness unless in the company of others of their kind.

Plum trees planted as indicated above are loaded down year after year with heavy crops of fair, perfect fruit, in spite of the curculio, notwithstanding this insect here is in extreme abundance; so much so, indeed, as to utterly destroy nearly all European Plums, late Cherries, etc. However, some of the varieties of purely Native Plums may be considered nearly curculio proof, among which are the new varieties introduced by us within the past few years, and which, it affords us great satisfaction to state, have proven superior in every way to all other known or disseminated varieties.

APRICOTS.

The most beautiful of fruit trees, the fruit much resembling the plum in habit and growth. Its beautiful foliage of heart-shaped leaves, its regular pyramidal growth renders it a very charming addition to the lawn. The fruit is large, of beautiful golden color, but liable to attacks from the curculio, on account of the smooth, fine skin. The same cultivation as the peach is necessary.

✓ **EARLY GOLDEN.**—First noticed in New York; medium to small, beautiful yellow, thin-skinned, flesh sweet, yellowish, of excellent flavor bears well and quite hardy. First of July.

LARGE EARLY.—Very large, orange yellow, with mottled blush on one side, separates from the stone. French origin; rich and juicy. Middle of July.

✓ **RUSSIAN APRICOT** (*Prunus Siberica*.)—The hardiest of all the apricots; has stood thirty degrees below zero without injury, while the Moorpark and Breda were frozen to the ground, and is free from all disease from worms and insects that have been so destructive to trees and fruits of the peach and plum. We have seen many of these trees growing in the Menno-nite settlements of Kansas and Nebraska, and have the first tree to see that was not perfectly healthy, vigorous and symmetrical. Fruit medium size and of the best quality, and brings the top price in the market.

QUINCE.

This valuable preserve fruit does moderately well here, and in some portions of Kansas and Missonri has been cultivated with remarkable success. We have learned of several quince farms that are becoming vastly profitable. The fruit always commands the highest price in the market, and is one of the most useful of garden fruits. Any soil, if moderately rich, will do. The following variety is especially recommended:

✓ **ORANGE.**—The most thoroughly tested and valuable variety here. large apple or orange-shaped, yellow, stems tender; bears large, firm crops; September 20th.

MISSOURI MAMMOTH.—In order to present or introduce it to the public with satisfactory evidences and recommendations of its merits, we append a resolution passed by the Missouri Valley Horticultural Society, at their November meeting, 1883.

"WHEREAS, in our successful fruit growing in the west, we have all felt the want of that very desirable fruit, the *Quince*, until the late introduction of the new variety, named by our Association, the *Missouri Mammoth*, which is of very large size, very aromatic and rich; the tree a healthy and vigorous grower and very prolific.

It is therefore resolved, that we can and do most cheerfully and sincerely recommend this new variety to all desiring this fruit."

J. C. EVANS, President.

G. W. HOPKINS, Secretary.

CRAB APPLES.

Within the past few years much attention has been given to improving this class of fruits, because of their adaptability to cold sections, where only a few varieties of apples can be successfully grown. These efforts have been attended with marked success. Crab Apples succeed equally in all sections, and are valuable for cider preserving, jelly, or ornament and some of the improved sort are excellent for eating. Sent to the eastern markets they meet a ready sale and bring fabulous prices. We could cite numerous instances where crab apples have been very remunerative to farmers and planters, did space permit.

✓ **TRANSCENDENT.**---The best early autumn variety fruit large yellow with red stripes; flesh yellow, crisp, juicy, acid to sub-acid; valuable for sauce and general table use, also for cider. Middle of August.

✓ **HYSLOP.**---About the size of the Transcendent; deep red with blue bloom. Tree strong, but spreading in growth; annual bearer, fruit esteemed for table and for cider. A splendid market variety. Last of September. A good keeper.

✓ **QUAKER BEAUTY.**---Tree strong grower, spreading habit, bearing large crops alternate years; fruit large, conical, with beautiful red cheek on a groundwork of white; quality best. New and fine, larger than either of above. Gets to be mellow when ripe. September.

FOREST AND ORNAMENTAL TREES.

CATALPA SPECIOSA.—Largely planted in this country, especially on the prairies of Kansas, because of its hardy, rapid growth, its peculiar adaptability to drouthy countries and on account of its value as a timber when used for the foundation of buildings or fencing posts—resisting decay better than cedar. This variety attains a lofty growth, often growing fifty feet to a limb; has a large, broad, heart shaped leaf, and covered annually with pyramidal clusters of white flowers, shaded with purple, and highly perfumed. There are several varieties of the Catalpa. The above is the only one we would advise planting.

HARD MAPLE.—A lofty, beautiful tree, slow growing, spreading top; perfectly hardy and very fine for lawns and avenues.

SOFT MAPLE.—A fine rapid growing tree, recommended to be planted largely in the West for groves and lawns. Bark smooth, somewhat red in color, straight, upright in growth, with branches slightly drooping.

BOX ELDER.—A native variety here, of low, spreading, very rapid growth, succeeding best on bottom lands. Bark greenish, foliage very thick and luxuriant, dark green. Valuable for shade.

EUROPEAN MOUNTAIN ASH.—Very hardy, upright with beautiful top, covered in spring with with large clusters of white flowers which develop later into bright scarlet berries hanging on the limbs until winter.

WEeping MOUNTAIN ASH.—Same as above, with the growth reversed by grafting; a beautiful weeping tree, branches hanging to the ground, and covered with red berries.

TULIP TREE.—One of the Magnolia family, very handsome and hardy, some times erroneously classed with the Poplar family. Highly recommended in this latitude.

SWEET CHESTNUT.—The well known Chestnut of eastern forests and of commerce. Succeeds moderately well here, making a handsome tree.

HORSE CHESTNUT.—One of the most kingly and elegant of all the lawn trees. Dense, dark green foliage, round and regular top; perfectly hardy.

CUT LEAVED WEeping BIRCH—Fine elegant foliage, drooping branches, white bark, new wood dark red; hardy.

KILMARNOCK WEeping WILLOW.—A new and beautiful variety grafted upon common willow stock; seldom attaining a height of more than ten feet, very spreading with branches drooping to the ground, foliage very dense of silvery color, moderately hardy.

WISCONSIN WEeping WILLOW.—Is a hardier sort than Babylonian, and is a handsome ornamental tree, but not so graceful or pendulous as the former. It is quite extensively planted, and especially in the northwest.

RUSSIAN MULBERRY.—This valuable fruit and ornamental tree was brought to this country from latitude 49° Western Russia, by the Mennonites. The tree is a very rapid grower. Trees the seed of which was planted six years ago, are now twenty feet in height, and from six to eight inches in diameter. The tree grows to be very large, often reaching the height of fifty feet, and from three to five feet in diameter, and is perfectly hardy. It commences to bear when two years old, and is a prolific bearer, the fruit being about the size of Kittatinny blackberries. Ninety-six per cent. of the berries are jet black, the balance reddish-white. They have a fine aromatic flavor and sub-acid sweet taste, and are used for dessert as we use blackberries or raspberries. The bark is grayish-white, branches drooping and perfectly hardy. A beautiful quick-growing tree for the lawn, while the fruit is valuable for table use. This tree will grow on all soils, unless too wet, and in all sections. It is a wonderfully rapid grower, and not only yields an abundance of very nice fruit, for the table, but is a beautiful tree for the lawn or garden.

FOREST TREE SEEDLINGS.

After a careful reading of the views and experiences of the best posted planter of this state, we are induced to recommend the following varieties for timber belts and stock shelter, viz: Russian Mulberry;* Hardy Catalpa;* Soft Maple;* White Ash; Honey Locust; Box Elder and Black Walnut. The latter should be planted from seed where they are intended to grow, all others should be transplanted at one year old. We star those we especially recommend.

EVERGREEN TREES.

RED CEDAR.—The hardiest of all evergreens for Western planting, making a splendid compact growth and easily trimmed to any shape.

SCOTCH PINE.—A fine, rapid growing tree with straight, erect shoots, and silvery green foliage.

AUSTRIAN PINE.—A robust, hardy, spreading tree, resembling the Scotch, but of bushier growth, coarser foliage of darker color, very desirable in this climate.

ARBORVITAE.—(American). Fine for hedges, and very ornamental for lawns, easily trimmed in any shape desired, and perfectly hardy.

IRISH JUNIPER.—Very erect, forming a beautiful column, and towering sometimes twenty feet in height, moderately hardy and the most beautiful of lawn trees.

NORWAY SPRUCE.—Of pyramidal habit, elegant, with pendulous branches and beautiful foliage, hardy.

SMALL FRUIT DEPARTMENT.

GRAPES.

The grape is fast becoming one of the most prominent features in the fruit line. It is planted and thoroughly tested in nearly every locality in the United States. The vines should be planted in dark, dry, deep, rich soil. Not often attacked by insects or disease and generally very hardy, the grape has proved to be a marked success. The vine can be confined to a stake, bound to a trellis, trained over an arbor, or extended until it covers a large tree or building, and still it yields its graceful, luscious clusters. Capable of most extraordinary results under wise management, it is also prone to give the greatest disappointment under bad culture or neglect. Some other fruits may grow without care, but grapes are to be had only through attention and forethought.

The most improved and best way of training vines is to a trellis. To make this take posts of oak, cedar or chestnut, eight to ten feet long, and set them three feet in the ground and about twelve feet apart; stretch No. 9 galvanized wire along the posts and fasten to each. Let the first wire be about 18 inches from the ground and the distance between the wires about 12 inches. Trellises should be 10 feet apart, anyway. Set the vines 10 feet apart.

Prune the vines to two canes each for two years after they are planted. In February or March these canes should be cut back to 5 or 6 feet each, and tied along the lower wire or slat of the trellis, horizontally. The buds (about one to every foot) should be allowed to grow up, always bearing in mind to trim out all the superfluous buds, as well as the young laterals which will always be found on strong, bearing, healthy vines. Always prune grape vines in November, December, February or March, while the vines are entirely dormant.

✓ **CONCORD.**—The oldest and most generally cultivated of all Western grapes; bunches large, long compact, shouldered, purple-black, covered with bloom, rich, sweet and juicy, with slightly aromatic flavor; extremely hardy, and bears regularly. Early.

✓ **DELAWARE.**—A red grape of fine quality, bunches small, very compact, shouldered, berry small but very sweet, with delicious flavor. Ripens nearly with the Concord.

✓ **POCKLINGTON.**—Seedling from the Concord; perfectly hardy, and of strong growth, color golden yellow, juicy and sweet, bunches large, compact, of very superior quality. Early.

✓ **ELVIRA.**—Medium size, white, valuable for wine, pulpy and sweet. Medium.

✓ PRENTISS.—Seedling from the Isabella; bunch large, berry medium to large, pale yellow, tender and juicy. Good grower and very productive.

✓ HARTFORD PROLIFIC.—Very hardy and a great bearer, berry large, black, and fair quality, thick skinned, tender, bunches not very large. Very early.

✓ GOETHE.—Light colored, nearly red, very sweet and fine flavor; succeeds well here. Late.

✓ IVES.—Vine a strong grower, very productive, inferior for table, but one of the best for wine. Bunches medium, shouldered, compact. Medium

LADY.—Bunch large, berry medium to large, light greenish-yellow, with white bloom; flesh tender, juicy and sweet.

SALEM (Roger's No. 22).—Bunch large, sometimes shouldered, very large, nearly purple, skin thin, flesh juicy, rich aromatic and sweet; very hardy, thrifty and productive. Very early.

✓ MARTHA.—One of the finest, well-tested, white grapes, bunch medium, solid, shouldered, berry greenish-white, thin skin, flesh sweet, aromatic, juicy. Early and good.

✓ DRACUT AMBER.—A *very early* red grape. Healthy, vigorous, productive. Large bunch and berry. Hangs well to stem and ripens with Hartford. Is quite foxy, but valuable as a very early grape.

CYNTHIANA.—A Southern wine grape, bunch medium, shouldered, berries smallish, black, sweet, vine healthy, vigorous grower. Ripens late. Esteemed highly in South and Southwest for wine.

WILDER. (Rogers' No. 4).—Bunch large, often shouldered, sometimes weighing a pound; berry large, nearly black, sweet and good; ripens about with Concord; vine vigorous, hardy, healthy and productive.

CATAWBA.—One of the best native grapes, where the season is long enough for it to ripen perfectly. Bunches medium size and quite perfectly formed, with a few shoulders; fruit round, with a reddish or copper color, when ripe; flesh pulpy, with a sweet musky flavor.

GOOSEBERRY PLANTS.

This fruit is among the most widely and profitably cultivated in this locality, always depended upon as producing good crops, little subject to mildew, and much esteemed for general table use. No garden should be without this valuable fruit. Below are the kinds we recommend:

✓ HOUGHTON SEEDLING.—Medium size, red, tender, juicy, free from mildew. Most planted of any variety except Downing.

DOWNING.—Upright, vigorous, can be trimmed to grow like a shrub tree, fruit very large, of whitish-green color, flesh soft, juicy, moderately sweet, growing in clusters.

CURRENTS.

A very desirable, mild fruit, valuable for market, as it bears shipping well and the markets are seldom if ever over stocked.

Keep the ground mellow and free from weeds, and prune freely every Spring. In some instances it may be necessary to guard against the Currant worm. Should it appear dust a little white hellebore powder, from a small course, bag over the bushes when the leaves are damp. In some cases it is needful to repeat the operation; it is of but little cost and the insects are readily disposed of.

✓ **CHERRY.**—Very large, fine bunches, fruit deep red, hangs well on the bushes, ripens early, produces annually.

✓ **RED DUTCH.**—An old long tested and well known sort, much esteemed, upright grower, and very productive.

✓ **LONG BUNCHEDED HOLLAND.**—Very large, red, strong grower, and moderately productive; fine for preserving and jelly, also valuable market variety.

KANSAS BEAUTY HUCKLEBERRY.

✓ (Dwarf June Berry.)

This is a splendid plant, not only for its berries, which are delicious, but as an ornament. When it is covered in the spring with its pure white flowers, it is a very beautiful object to look upon. It blooms in May, and ripens its fruit in July. The fruit is black, covered with bloom and has a very fine and agreeable flavor. It is perfectly hardy, produces no thorns, plants are very productive, the berries more firm than the Strawberries or Black Raspberry; bear carriage well. They are almost sure to live when transplanted. We advise everybody to plant largely of this valuable fruit. It commences bearing the next year after planting and bears annually large crops.

Several other varieties including Swamp High bush, Low bush and Indiana, are now being thoroughly tested by us and should they prove valuable sorts in this locality we shall take pleasure in offering them to our patrons.

RHUBARB.

RHUBARB (pie-plant) is usually in great demand for pies, tarts, sauce, etc., as it is in its prime previous to the appearance of the fruits that are used for such purposes. Its growth may be hastened in the spring by inverting barrels over the plants. The stalk when 15 or 18 inches long are pulled, and tied in bunches of three or four inches in diameter, cutting off all except an inch or two of the leaves. They are shipped in crates or ventilated boxes, and usually sell at from 4 to 15 cents per bunch, according to earliness, thickness of stalks, etc., but usually at 5 or 6 cents each.

If planted on clay soil, such soil may be kept from baking by cultivating after each hard rain when not too wet. Draining is also often completely successful. Another partially successful way, is to plow under coarse manure thickly, or coal ashes two or three inches deep. Coal ashes only have a mechanical effect, unless wood ashes are mixed with them when making up fires. A forkful of rotted manure placed over each hill in November is excellent, and should be forked under early the following spring. We carry the VICTORIA variety in stock and consider this sort the most valuable for general planting.

ASPARAGUS.

A hardy perennial, which may be grown on the same land without renewal for many years. In the formation of beds, the land should be deeply trenched and well enriched with rotted manure. Each fall, cover one to three inches deep with manure and fork it in, in the spring before the plants start. No family can afford to be without a good bed of Asparagus, and no vegetable will yield better returns for the labor required.

✓ **CONOVER'S COLOSSAL.**—A new variety, but recently introduced; said to be the most valuable variety known.

BLACKBERRIES.

The Blackberry is grown throughout the length and breadth of this country. The fruit ripens here in July and August, succeeding most of the varieties of Raspberries. Some of the finer kinds produce berries from an inch to an inch and a half long, and prove a great addition to the appearance of the fruit-dish. Their rich, pleasant flavor makes them a favorite with nearly everyone, and especially when brought ice-cold from the refrigerator.

✓ **KITTATINNY.**—Ripens early, of fine quality, sweeter and better than the Lawton, which is now generally discarded; very large and productive.

✓ **SNYDER.**—Very large, hardy and wonderfully productive; soft sweet and juicy, without a hard sour core. Much planted and esteemed in the west as one of the best.

✓ **EARLY HARVEST.**—A new Blackberry that ripens its fruit during wheat harvest, far in advance of all other varieties. It is said to be as hardy as "Snyder" and equally productive.

Mr. Parker Earle, an extensive fruit-grower as well as one of the most celebrated and careful horticulturists, President of the *Illinois Horticultural Society*, and Editor of the *Farmer and Fruit Grower*, writes of it as follows:

"It has been ripening for eight days, the first few berries having been picked on the 12th inst. (June). I never saw a bigger load of fruit on plants of their size. The berry is only medium in size, is long in form, is tender to the center, and is of good flavor. It is perfectly flowered, as there is no variety nearer to it than thirty rods, but its great merit is its earliness. I cannot compare it with the 'Wilson's Early,' because our field of that kind was entirely killed. But we made our first shipment of 'Wilson' last year on June the 14th, and we consider the season about a week later this season than last. I liked it and consider it valuable."

Mr. Earle wrote the foregoing in 1881. He now writes that he likes it still better after another year's fruiting.

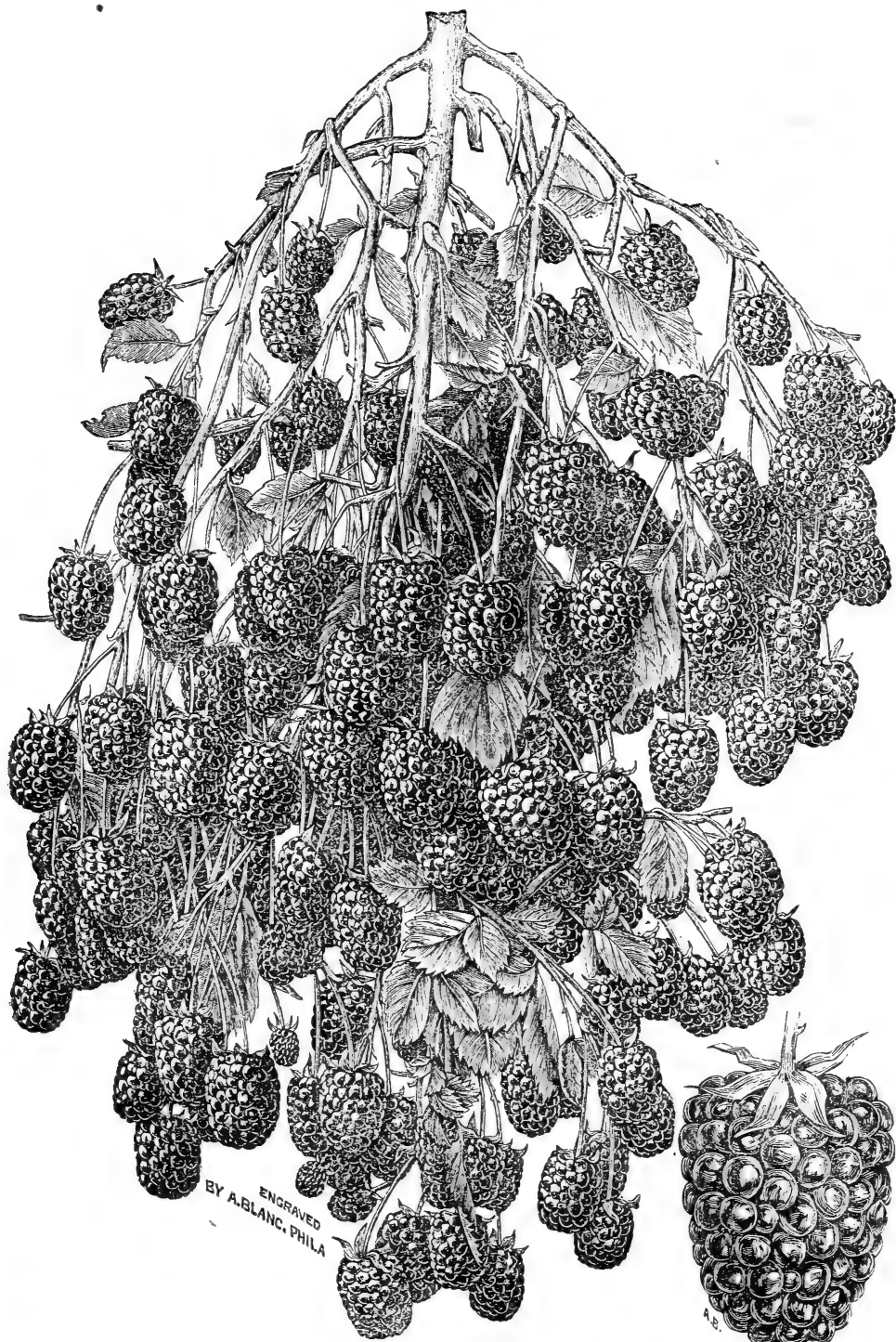
✓ THE WILSON JUNIOR.

The Largest Early Blackberry.

("It ripens nearly a week earlier than the old Wilson."—Wilmer Atkinson in *Farm Journal*.)

Was produced from seed of WILSON EARLY, the largest and most profitable blackberry until the introduction of the WILSON JUNIOR, which has inherited all the good qualities of its parent, and being twenty-five to thirty years younger is of strong, robust constitution, and not afflicted with the infirmities which age, neglect and abuse have imposed on that worthy old variety, and in addition is larger, earlier and more productive.

Wm. Parry, of Parry, N. J. says: We have grown the WILSON JUNIOR for several years as our most valuable market variety, and this season it has more than sustained its past record, the immense crop of fruit being even greater than before, while the berries have maintained their enormous size, measure $3\frac{1}{2}$ to 4 inches in circumference lengthwise by $2\frac{1}{2}$ to $3\frac{1}{4}$ inches cross-wise, and ripened nearly a week in advance of any other large variety. (See cut.)



ENGRAVED
BY A. BLANC, PHILA

WILSON JR. (Reduced Size)

(Natural Size)

RASPBERRIES.

The Raspberry is one of our most popular fruits, and being very easily grown, is destined to be still more widely planted as the superior qualities of some of the newer sorts become more generally known. There are, perhaps, none of the smaller fruits that give a larger share of unalloyed enjoyment than does this. Besides the pleasure that the berries give in adding to the variety of our tables, either as picked and eaten when fresh and sparkling with drops of dew, or, as they came icy cold from the refrigerator or ice-house during the hot days of summer, they are also said to be especially beneficial to those who are suffering from rheumatism or gout, as they seem to be possessed of considerable medicinal properties. The mild acid of the fruit is not very liable to undergo fermentation in the stomach, and consequently, proves an agreeable and healthful fruit to nearly all who use it in moderate quantities. In the form of raspberry vinegar or syrup, or in the making of preserves, tarts, ices and jellies, the fruit proves, also, exceedingly welcome at other seasons of the year.

✓ **MAMMOTH CLUSTER.**—Strong, upright, splendid bearer, plant hardy, considered one of the best of the black caps.

✓ **GREGG.**—The largest and most wonderful bearer of all black caps; plant hardy, upright, strong canes, new canes bearing first year; superior to the M. C. in bearing and size but not so good a shipper.

✓ **SHAFFER'S COLOSSAL.**—Probably the largest of raspberries. Plant a wonderful grower and very productive; berries the very largest, rich purplish red in color, firm, but too dark for a good market berry; very valuable for family use.

We take the following from the *Wichita Eagle* of June 30th, 1886:

SHAFFER COLOSSAL.

"Among the fine display of fruits made at the session rooms of the State Horticultural society's semi-annual meeting, now in session in this city, none surpassed the display of the Hart Pioneer Nurseries, of Fort Scott. H. B. Hart, the president, exhibited a number of boxes of the Schaffer Colossal red raspberry, which, for size and flavor, surpassed anything of the character that we ever saw in any clime or country. These berries were the attraction of the exhibition, and Capt. Moser says they are unexcelled. We are under obligations to President Hart for several boxes of these choice berries which seem just suited to our Kansas soil and climate."

✓ **TURNER.**—Very hardy, seldom effected by severe cold; fruit large, soft, sweet and rich. The beauty of this variety is that it is nearly thornless; wonderfully productive, an early and annual bearer.

✓ **HANSEL.**—The best *early* red raspberry; crimson red, good size, sweet, delicious, firm, and a wonderful producer; as far as tested it has proven of the highest value in the west.

✓ **CUTHBERT, OR QUEEN OF THE MARET.**—This splendid berry still continues to grow in favor, and now stands at the head of the late red market varieties. Although but recently introduced to the public, it has been grown largely for market in different parts of the country for the past ten or twelve years. Berries very large, specimens measuring over three inches in circumference, of a bright red, handsome color, very fine, can be shipped a long distance by rail, and always commands the highest price in market. Canes strong, vigorous, enormously productive, and perfectly healthy, enduring severe cold and extreme heat and drouth better than any other variety. Season medium to late.

✓ **SOUHEGAN.**—A valuable new early cap berry, jet black and free from bloom of good size, enormously productive, ripens a week or ten days

earlier than Doolittle, and brings higher prices on this account. It has proved perfectly healthy and iron-clad. Originated in New Hampshire, but has been tested in many other states, and is highly praised by all who have grown it.

THE NEW EXTRA EARLY RED RASPBERRY.



∴Rancocas∴

RANCOCAS.—Good color. very productive. best quality, carries well, a great market and family berry, ripens ten days ahead of Brandywine, bush hardy, healthy, vigorous and productive, a most valuable market berry and indispensable for home use. Fine quality, beautiful color, a good shipper, and ripens its whole crop in ten days or two weeks.

LUCRETIA DEWBERRY.

✓ THE LUCRETIA DEWBERRY was discovered by an Ohio soldier during the late civil war, in West Virginia more than twenty years ago. The fruit was of such remarkable size and excellence that the locality was noted, and after his discharge from the service, the soldier returned to the spot where his favorite berries grew, dug up a number of the plants and brought them to his home in west-central Ohio, where they were planted in a number of gardens. Here they have been growing and fruiting for fifteen years as finely as on their native Virginia hills. The plant is perfectly hardy and healthy, and remarkably productive. The flowers are very large and showy. The fruit, which ripens with the Mammoth Cluster Raspberry is often one and one-half inches long, by one inch in diameter, soft, sweet and luscious throughout, without any hard center or core.

It is the best of the Blackberry family; as hardy as Snyder and as productive as any. The berries are far larger and incomparably better than any Blackberry. As the Dewberry roots only from the tips, and does not sprout like Blackberries, it will be much more desirable for garden culture; and the trailing habit of the plant will render winter protection easily accomplished in cold climates, where that precaution may be necessary. It may either be allowed to trail on the ground, or be trained to a wall, or fence, or over stumps, rockeries, etc. Its great profusion of large, showy white flowers in spring, followed by the clusters of beautiful fruit, together with its handsome, glossy foliage, render this an interesting plant at all seasons. It has proved *very satisfactory* wherever tried, and is recommended with the greatest confidence.

G. W. Campbell the veteran Horticulturalist, and Secretary of the Ohio State Horticultural Society, thus speaks of the Lucretia Dewberry in the *Ohio Farmer*, September 27th, 1884:

"Hearing there was a plantation of the Lucretia Dewberry in bearing in Miami County, Ohio, I visited it on the 11th of July, and found the old and well remembered Dewberry of my boyhood in its best stage, and apparently flourishing as well as under field and garden culture as in its native wildwood. The Lucretia is stated to have been obtained many years ago in Virginia, from a bush, bearing berries of remarkable size and excellent flavor; and plants grown from this variety were brought to Miami County some fifteen years ago, where it has been grown successfully ever since. I found it on the 11th of July, fully ripe, and averaging the largest in size of any of the blackberry family I have ever seen, and in quality the best. The largest berries, by actual measurement, were one and a half inches long, and one inch in diameter; the smaller berries, one inch long, and half an inch in diameter. Picked in a basket they seemed the handsomest, as well as the largest Blackberries I had ever seen. The perfectly ripened berries were a deep, shining black, the pips large, and when eaten, all melting in the mouth, with no hard core at the center. Its productiveness seemed to me also quite remarkable, the berries fairly crowding one another upon the bushes. Its habit of growth is slender and trailing, more so than that of the black cap Raspberry, and this may render field culture somewhat difficult. I observed, also, that the heavy weight of fruit upon the slender branches was much of it lying upon the ground; and mulch of straw or some similar material would probably be necessary to keep the berries from being soiled.



ORNAMENTAL DEPARTMENT.

The value of ornamental trees, shrubs, etc., is inestimable to those who have given this point their attention. While most people appreciate well arranged and well kept grounds, large or small, many fail to realize that *they* can have equally fine grounds. These have had a few shrubs or roses growing in thick turf, with no attention given to pruning or cultivating. Under such circumstances, good results could hardly be expected. Aside from the pleasure of having fine trees, shrubs, vines and flowers on the grounds surrounding a home, few realize how much these add to the commercial value of a place. A purchaser having to decide between a house with bare and unkept yard, and one surrounded by fine ornamental and fruit trees, invariably chooses the latter at a marked advance in price, because he sees that he will at once enjoy what it would otherwise take some years of patient effort to secure. Sagacious men are led by a knowledge of these facts, to plant fine trees and shrubs about vacant lots and others intended to be put upon the market. Lots thus planted readily secure purchasers at remunerative prices, when other grounds are waiting for buyers.

HOW TO PLANT.

Do not make the mistake of planting at random, all over your grounds. A fine well cut lawn is one of the handsomest features of a place. Trees may be planted along a lawn or avenue leading to the house, or dotted about the house on lines radiating from it. This will secure light and air, and good views from the house. Upright shrubs and roses appear best and should be planted, each class by itself, about the borders of the grounds. These beds should be well cultivated and the plants annually pruned.

When the growth of the plants has made them very thick some should be removed. It is not advisable to plant so little that years must elapse before the desired effect will be produced. It is economy to plant a surplus to begin with and then to gradually thin out as may be required.

Vines should be planted near to and be allowed to climb upon and about the house or they may be trained on posts, arbors or stakes, as the fancy indicates, and placed in suitable positions on the lawn.

On the following pages may be found a list of valuable ornamental stock, we having put in this catalogue nothing but what we can cheerfully recommend to any one who anticipates planting anything in that line. By due diligence and a careful revision of this edition, we think we have been able to cast aside everything not worthy to be found in this work, leaving only the "cream."

ROSES, SHRUBS & CLIMBING PLANTS.

ROSES.

Roses are the most desirable of all flowers, and invaluable for all-kinds of flower work. They require good cultivation, and plenty of manure; old and decayed branches should be removed and at least half the previous season's growth should be cut away early in the spring; a little cutting back after the first blooming will insure more late flowers. The so-called tender roses *must* be carefully protected in winter by covering them with leaves, straw, etc.

INSECTS. There is an insect or fly called the *Thrip* which often attacks rose plants. To guard against this, or should it appear, syringe the plants daily with a strongly steeped solution of tobacco stems (one pound of stems to five gallons of water) or a solution of whale oil soap (one pound of soap to eight gallons of water) until the insects are conquered. The presence of the *Rose Catipillar* can be detected by its glueing two or more leaves together for shelter. These leaves should be promptly pressed together and the insect is killed. White Hellebore will destroy insects that eat the leaves. The secret of success in destroying all species of insects lies in applying the appropriate remedy as soon as the insects appear. *Rose Bugs* must be picked off.

HARDY ROSES.

GEORGE 4th.—Dark crimson, very full and double.

HARRISON'S YELLOW.—Fine, large, of beautiful yellow; very hardy.

MADAME PLANTIER.—White, profuse bloomer, clustered, hardiest of white June roses.

REMONTANT AND HYBRID PERPETUAL ROSES.

GEN WASHINGTON.—Brilliant, dark red, full, very double and well formed; very free bloomer, dwarfish in growth; beautiful for lawn.

JOHN HOPPER.—Bright red or crimson; strong grower; free bloomer and hardy.

MADAM CHAS. WOOD.—Remontant; crimson, large, full in the center.

PAUL VERDIER.—Fine Pink, larger and deeper colored than the above; very fragrant.

GEN. JAQUIMINOT.—Dark crimson to scarlet, velvety and beautiful, strong and free bloomer; perfectly hardy.

GIANT DES BATTLES.—Free bloomer, crimson, medium, remontant, not extremely hardy.

LA REINE.—Dark pink to red, free bloomer, large, very double; should be in every collection.

PAUL NERON.—The largest of all roses, beautiful blush, very hardy.

COQUETTE DES ALPS.—White, tinged with carmine; very fine; free bloomer.

CLIMING ROSES.

BALTIMORE BELL.—White, shaded with delicate blush at center, a handsome free bloomer, not very strong, but hardy.

PRAIRIE QUEEN.—Bright blush, large and full, very free bloomer, very strong rapid grower, and hardy.

SEVEN SISTERS.—Blooms in clusters, deep red, beautiful and hardy.

MOSS ROSES.

HENRY MARTIN.—A beautiful pink variety shaded with crimson buds very mossy and delicate, much desired, hardy, very sweet and fragrant; strong grower.

PERPETUAL WHITE.—Pure white, most delicate, mossy buds; a most beautiful variety.

PERPETUAL RED.—A magnificent perpetual moss rose; extra large, very double and full; sweet, buds very mossy, bright crimson, changing to deep red.

ALTHEAS.

A beautiful shrub, easily cultivated, late, free bloomer, double varieties particularly desirable. We offer these valuable lawn shrubs in the following colors: red, blue, white, pink, purple, variegated.

DECIDUOUS SHRUBS.

CALYCANTHUS.—(Sweet scented). Wood and bloom very fragrant, flower cupped purple and pretty; shrub highly ornamental.

DEUTZIA CRENATA.—From Japan; flower white tinged with rose; hardy and beautiful.

PURPLE LILAC.—Hydrangea family; strong grower and hardy; one of the finest and hardiest of lawn shrubs.

FLOWERING ALMOND.—A beautiful low growing shrub, covered early with beautiful blush and white blossoms.

SNOW BALL.—Well known, hardy, large white blossoms in June.

JAPONICA.—(Japan Quince). For ornamental hedge; also beautiful lawn plant; bright scarlet blossoms, hardy.

PURPLE FRINGE.—(Smoke tree.) A shrub tree of spreading growth; covered in early summer with a long hair like bloom, resembling, at a distance, a cloud of smoke.

SYRINGA.—Fragrant fine, white double flowers, hardy and ornamental.

VARIEGATED LEAVED WEDELIA.—Not very hardy; leaves variegated and strikingly handsome; flowers blush to pink.

YUCCA.—(Filamentosa.) A hardy evergreen plant; long, narrow,

leaves bordered with hairy fibers; flowers blooming on a stem from four to five feet high which bears seed and dies annually.

UPRIGHT HONEYSUCKLE.—Upright, bushy, growing eight to ten feet; flower small red, beautiful and hardy.

PAEONY.—A fine showy herbaceous plant, varying in shade and flowering from beginning of May to the end of July; large and double.

SPIREA.—Beautiful shrub, the leaves have a slight bronze tint.

BRIDAL WREATH.—A beautiful, hardy shrub, of the Spirea family, with clusters of small, delicate white flowers.

WEGELIA ROSEA.—One of the finest and most superb shrubs grown. Bears an abundance of beautiful, bell-shaped, light rose-colored flowers in May and June. Very desirable and popular.

PERSIAN LILAC.—Hardy, with beautiful cut foliage and delicate purple blossoms.

YELLOW FLOWERING CURRANT.—A native species with yellow flowers.

CLIMBING PLANTS.

VIRGINIA CREEPER.—(Ampelopsis.) A strong hardy climber with beautiful foliage of deep green, changing in Autumn to scarlet red; perfectly hardy.

CHINESE HONEYSUCKLE.—Foliage deep green, nearly evergreen, with highly fragrant blossoms, of different shades of yellow and pink; hardy.

CHINESE WISTERIA.—Very strong growing, hardy and beautiful; blossom clustered, purple; one of the finest.

TRUMPET FLOWER.—One of the finest climbers with large trumpet shaped flowers nearly red; beautiful in summer.

CLEMATIS JACKMANNI.—Perpetual summer bloomer; flower large, purple in color and strikingly beautiful, very hardy.

STRAWBERRY PLANTS.

This most valuable fruit deserves more than passing notice both on account of its easy cultivation, and the great value of its fruit in all soils and climate of the temperate zones. The different varieties have been found to be highly successful in this locality, and always commands a good price in the market. Last spring from a patch of four acres of this valuable fruit comprising the varieties named below, we picked and marketed 12,000 quarts, which is only a fair estimate of what the strawberry will do annually if properly cultivated. Among many varieties we especially recommend the following:

***CHAS. DOWNING.**—Very large, firm, deep red; a prolific bearer, and splendid market berry, Staminate and Pistillate.

***WILSON'S ALBANY.**—Nearly as large as Downing; seeds nearer together, conical in shape and not quite as sweet; fine market sort and bears large crops annually. Staminate and Pistillate.

CRESENT.—Ripens very early, medium to large size, splendid for the table and home market; vine a strong grower and standing the coldest weather. One of the hardiest sorts. Pistillate.

CUMBERLAND TRIUMPH.—Berry very large, not very firm; prolific sweet and juicy; plant vigorous.

***CAPTAIN JACK.**—Considered in the east as one of the finest; largest size, firm and good shipper.

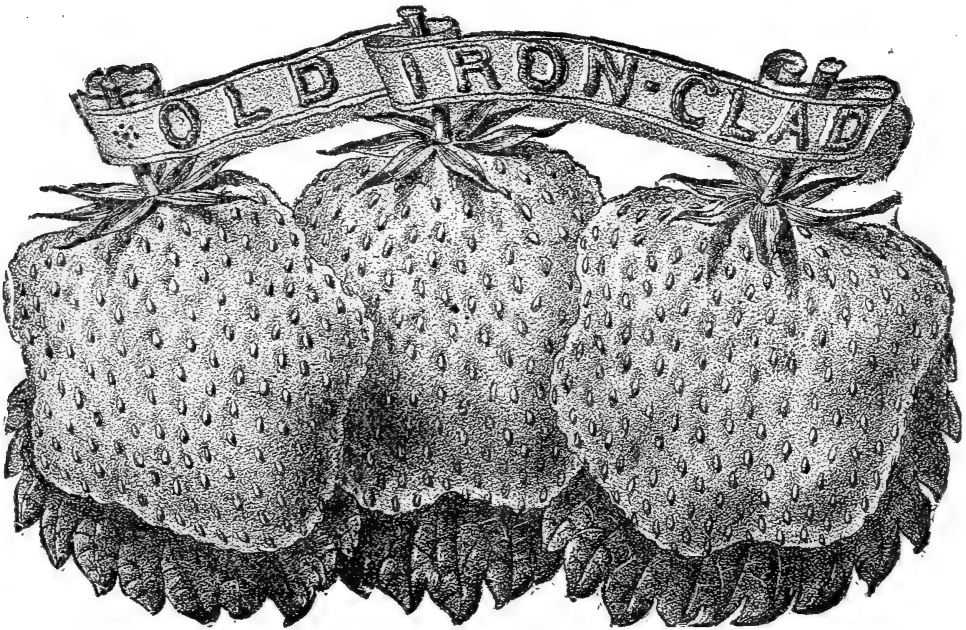
BIG BOB.—One of the largest of the new sorts. and proved to be very desirable in the West, taking the place of the Wilson and Downing and larger than either. Pistillate.

***PHELPS (Old Iron Clad.)**—One of the most healthy and vigorous growing plants on our place, yielding an enormous crop of medium to large berries, somewhat irregular in shape, but of good color and flavor. In Southern Illinois, where it originated, it is creating quite a sensation, and is thought by many to be the most promising. The following is from A. M. Purdy, who has had thirty-five years experience in raising strawberries for the market:

"In our large experience in growing strawberries, and having grown every sort worth growing that we have heard of, we find this sort *distinct* in growth of plant from any other variety we have grown. Many of the berries "sport" and grow somewhat in shape and color like the Old Triumph de Grand, but is more juicy and far more prolific, and what makes it still more valuable, it shows no signs of rust or sun burning, but right in the midst of the past season's severe drouth it was a marvel for greenness and healthiness of plant, being told quickly from all other sorts across a large field. Every person should set some of this sort, *so confident* are we that it will prove a success over the *entire* country. (See cut.)

***BIDWELL.**—A Michigan variety that seems to combine more good qualities than almost any other, being of strong growth, forming mammoth stools, and giving a heavy crop of large, conical, bright crimson berries, which are firm, attractive, and of excellent quality. Season early to medium.

* Starred varieties have perfect flowers and fruit when planted alone.



This is called 'the best strawberry of all' The plants are extremely vigorous growers, and resist drouth or disease exceedingly well. The fruit is often extra large, of a light scarlet color, and ripens early. Old Iron-Clad has been successfully tested, both at the East and the West, and should now be planted in every garden.

INSECTS AND DISEASES AFFECTING THE APPLE AND PEACH.

THE APPLE BORER is the larvae of a striped brown and white beetle (*saperda bivittata*) that bores into the trunks of trees at the surface of the ground. When this white grub is already present in the tree, it may be either picked out with a knife, or punched to death in its hole by using a twig or flexible wire. If the borers are not very numerous and time precious, then this may be omitted, but late in June the trunks of the trees should be washed down *to the ground* with a mixture made of half a gallon of soft soap and a quarter of a pint of crude carbolic acid, stirred into two gallons of warm water, and afterwards two gallons of cold water, added. Another easy plan is to mix an ounce of crude carbolic acid with a gallon of hot and strong soap suds, and apply when cold, in June, and the last of July.

Other preventatives are to wash the lower trunks of the trees with a solution of half a pound of common potash to a half gallon of water, in May and June. Coal ashes mixed with wood ashes, and heaped up around the trees in May are excellent. Wood ashes if applied alone very thick, might injure *young* trees. Air-slacked lime and soil are also good to heap up around the trees. If the trees are entirely girdled by borers, mice or rabbits, they can often be saved by connecting a number of scions or grafts with the lower and upper bark, in the spring, and afterwards covering, where they join, with grafting wax.

DESTROYING THE CODLING MOTH.—This moth (*carpocapsa pomonella*) lays the eggs in the fruit that produces the *apple worm*. It is of a grayish color, marked with brown, and is about half an inch in length. One plan is to wind a band of hay or cotton flannel around the trunk or branches of the tree, and after the worms have come down from the fruit, and spun their nets in the band, it may be destroyed or cleaned before they hatch out. By placing old old clothes in the crotches of the trees many may be caught. Swine and poultry will also destroy many apple worms, if given a chance.

The moths, as well as other moths or beetles that fly at night, may be destroyed *in large quantities* by means of petroleum torches, or small fires lighted in the orchards in May and early in June. A light thrown upon a fish or trout pond will cause many moths to fall into the water and be eaten up. Another plan is to place a lantern or lamp inside a tarred barrel or against tarred boards. Another, to place a bell-glass smeared outside with oil, over a light in a dish filled with oil. Wide-mouthed bottles half filled with vinegar, molasses and water, will trap large quantities. United efforts in a neighborhood are best, and will soon give smooth, clean apples and good crops of all.

THE PEACH BORER [*Ageria exitiosa*] is a thin whitish worm, sometimes growing to nearly an inch in length, which girdles the tree just below the surface of the ground. The favorite method of destroying the borer is to hollow out the soil four or five inches deep, in June, making a basin, and then to pour in one or two gallons of hot water. In treating young trees it may be safer to use a knife or flexible wire to kill the borers, but in bearing orchards it is quicker to use the hot water, heating it in large kettles in the orchards. Heaping up soil or coal ashes around the trees in June, first brushing around the collar of the tree with a broom, and removing the old soil and sweepings to one side, often prevents the borer from making a lodgment. In September or October the ground may again be leveled off, and either treated with hot water, or brushed well below the surface with a broom. A wash made of half a gallon each of soft soap and hot water, and four ounces of carbolic acid, with twelve gallons of cold water added afterwards, if applied early in July, will prevent the blue, four-winged

parent wasp from depositing its eggs in the trees. Driving nails in the trees have no effect; but other washes, or a handful of wood ashes placed around the trunk might be a benefit.

TREATMENT OF THE YELLOWS.—Its appearance may be known by the tree putting out some thin, wiry laterals, upon which are produced very slender or narrow leaves of a yellowish or pale green color. The usual practice is to dig out the tree and roots and burn them, and not to plant another *peach* tree on the same spot for twelve or fifteen years. No remedy is known, and as we have had no trouble with it on our grounds we have made no experiments in that direction. The tree only would live a few years after being attacked, bearing smaller fruit each year; that is darker inside than natural, and specked, ripening almost prematurely. Possibly cutting out the diseased branches, and using the hot water as described above, might be a benefit, especially if wood ashes are worked into the soil, and the branches and laterals kept well shortened in each year. As the effects of the borer are sometimes mistaken for the yellows, the hot water treatment would save some doubtful trees. Other experiments are worth trying.

HINTS ON TRANSPLANTING, ETC.

GOOD CULTIVATION.—By which we mean keeping the ground at all times free from weeds and grass, together with thorough drainage, either natural or artificial—is absolutely necessary to success.

PREPARATION OF THE SOIL.—Prepare a rich, deep bed of mel-low soil, and have the land sufficiently drained to relieve the roots from standing water. To insure a fine growth land should be in such condition as is required for a *good* crop of wheat, corn or potatoes.

CARE OF, WHEN RECEIVED.—Trees, unless planted at once as soon as received, should be unpacked, bundles separated and untied, and very carefully healed in the ground. If the trees are at all dried or shriveled up, submerge them in water for three or four days; then take them out and plant them, and they will appear as fresh as though just removed from the ground. Always keep the trees away from the sun as much as possible before they are planted.

PLANTING.—Be sure to make the holes large enough to admit the full roots without cramping them. The fine surface soil should be sifted around the roots, covering them closely. If the ground is dry, it is well to pour some water in the hole when partially filled. Tramp the earth closely and firmly around the roots, so that there will be no opportunity for dry air or frost to enter and destroy roots deprived of the full benefit of their natural protection. Always remove the label when planting; if this is left, the connecting wire will cut into and destroy the tree or branch to which it is attached. Never use manure in contact with the roots, but on top of the ground. Dwarf trees should be set low enough to cover the stock on which they are budded, but not lower. Standard trees should be staked and tied, so that the wind will not loosen the roots. It is a very good way to drive a stake on either side of the tree and confine the tree between straw or hay bands, stretched from stake to stake; these will not chafe the tree as would ropes or any hard material.

PRUNING.—In digging trees in the nursery, it is often the case that the ends of the roots are cracked or bruised. Such ends should be cut off smoothly before planting; having done this lessen the top in proportion, thereby making a uniform tree. Nearly all the trees that are planted are not cut back enough to begin with, as the planter is generally afraid that he will injure the tree or stunt its growth. When trees have been injured by exposure it is better to cut them back further than at any other time.

MULCHING.--When trees or bushes are planted, they should be *mulched* or covered with a layer of course manure or litter, from three to six inches deep, for a space of say two feet or more in diameter than the extent of the roots. This keeps the earth moist and of even temperature. Be careful not to have the litter touch the tree, but rather four or six inches back from the stem, as it furnishes an abode in winter for mice and insects that will gnaw the tree.

AFTER CULTURE.--Grass and weeds should not be allowed to grow or accumulate in an orchard, as nothing will flourish in a bed of weeds; it only serves as a retreat for insects and disease. The earth should be kept mellow and cultivated as for a corn crop. We know that this is little practiced by farmers in general, but they would be wonderfully surprised and amply repaid if they would give this their attention. The question is often asked us "why do not my trees grow better?" We would ask it this way: When a man has decided to have an orchard, he generally first calculates its probable cost. He hears of some little so called nursery, where he can purchase a cheap tree, at perhaps one half the cost of a good first-class tree. He "gets his ground ready," as he calls it, by using some old piece of worn-out land which he thinks is good for nothing else, and digging some holes in it; he then goes to the little nursery and purchases the cheap, poor trees at a discount of 50 per cent., thinking he has a great bargain. Perhaps he has but it is so great that he will never undertake it again. His trees are planted in a few minutes and no further attention paid to them, he thinking they are old enough to care for themselves. One in fifty may live and it may not, it depends on circumstances. He then censures the nurserymen, the good ones as well as everyone connected with the business. We say that there are swindlers in the nursery and tree business as well as all other branches of business, but it does not follow that all are such.

When you are ready to plant trees, go to some good responsible nurserymen; tell him your intentions, the soil on which you wish to plant, etc., etc., and he will give you valuable information in regard to different varieties of fruit, the different methods of culture; etc. You will find he has no secrets, but will gladly give you any information in his power.

PLANT YOUNG TREES.--We cannot so strongly recommend our customers and friends to procure young and thrifty trees, especially for orchard planting. They cost less, they can be taken up with more perfect roots, are much more likely to live, and will become sooner established in a new location. They can also be more readily trained to any desired shape. The largest and most successful planters invariably select young, thrifty trees.

*This cut represents the PACKING HOUSES, SUPPLY HOUSES, OFFICES and PACKING
 GROUNDS of the HART PIONEER NURSERIES, FORT SCOTT, KANSAS*



This was engraved from Photographs taken in April 1886, during the packing season, and shows our conveniences for thorough and careful handling of stock.